

Date: Tuesday, 09/09/2008 1:00:33 PM  
 User: Julie Lecocq

## Process Sheet

<b>Customer</b> :	CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> :	SINGLE MIRROR ASSEMBLY
<b>Job Number</b> :	41912		
<b>Estimate Number</b> :	12277		
<b>P.O. Number</b> :		<b>Part Number</b> :	D206558041
<b>This Issue</b> :	09/09/2008	<b>S.O. No.</b> :	
<b>Prsht Rev.</b> :	NC	<b>Drawing Number</b> :	IIN206-558 U/R
<b>First Issue</b> :	/ /	<b>Project Number</b> :	N/A
<b>Previous Run</b> :	41317	<b>Drawing Revision</b> :	C U/R
	<b>Type</b> :	<b>Material</b> :	
	SMALL /MED FAB	<b>Due Date</b> :	19/09/2008
<b>Written By</b> :		<b>Qty:</b>	5
<b>Checked &amp; Approved By</b> :	JLD 08.9.09	<b>Um:</b>	Each
<b>Comment</b> :	Est. F 02.09.19 Re-format; Incorporated D2065 KJ Est Rev:G 08-05-14 now @ chg006/ add D3778-1 per ECN1171 DD verified:ec Est Rev:H 08-08-19 now @ chg 007 DD verified by:ec		

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

1.0	DC	DOCUMENT CONTROL
-----	----	------------------



Comment: DOCUMENT CONTROL

Photocopy bluefile and type labels as per PPP D206-558-041 CHG007



2.0	D2011101	6" Mirror
-----	----------	-----------



Comment: Qty.: 1.0000 Each(s)/Unit Total: 5.0000 Each(s)

Mirror 6"

Pick:

Qty Part Number Description Batch

1 D2011-101 Mirror

B43793

Epo 09/03/09

3.0	D2065	Arm
-----	-------	-----



Comment: Qty.: 1.0000 Each(s)/Unit Total: 5.0000 Each(s)

Arm

B45543



Epo 09/03/09

4.0	D2052	Mounting Bracket
-----	-------	------------------



Comment: Qty.: 2.0000 Each(s)/Unit Total: 10.0000 Each(s)

Bracket

Pick:

Qty Part Number Description Batch

2 D2052 Bracket

B36617 (94)

B39556 (14)

Epo 09/03/09

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B		Sign & Date	Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng				

**NOTE:** Date & initial all entries

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## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SINGLE MIRROR ASSEMBLY

Job Number: 41912

Part Number: D206558041

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

D2054

Bushing



Comment: Qty.: 2.0000 Each(s)/Unit Total : 10.0000 Each(s)

Bushing - Delrin

Pick:

Qty Part Number Description Batch

2 D2054

Bushing

B39433



B394

Ep09/03/09

6.0

D2055

Clamp



Comment: Qty.: 1.0000 Each(s)/Unit Total : 5.0000 Each(s)

Clamp

Pick:

Qty Part Number Description Batch

1 D2055

Clamp

B34365

Ep09/03/09

7.0

D2056

Bell Crank



Comment: Qty.: 1.0000 Each(s)/Unit Total : 5.0000 Each(s)

Bell Crank Assembly

Pick:

Qty Part Number Description Batch

1 D2056

Bellcrank

B39434

Ep09/03/09

8.0

D2057

Plug



Comment: Qty.: 1.0000 Each(s)/Unit Total : 5.0000 Each(s)

Plug

Pick:

Qty Part Number Description Batch

1 D2057

Plug

B40048

Ep09/03/09

9.0

AN960JD10

Washer



Comment: Qty.: 4.0000 Each(s)/Unit Total : 20.0000 Each(s)

Washer

Pick:

Qty Part Number Description Batch

4 AN960JD10

Washer

M110139

Ep09/03/09

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Drawing Name: SINGLE MIRROR ASSEMBLY

Job Number: 41912

Part Number: D206558041

Job Number:



Seq. #:

Machine Or Operation:

Description :

10.0

MS21042L3

Nut



Comment: Qty.: 2.0000 Each(s)/Unit Total: 10.0000 Each(s)

Nut

Pick:

Qty Part Number

Description

Batch

2 MS21042L3

Nut

1110399

or MS21042-3

EF 09/23/09

11.0

MS27039118

Screw



Comment: Qty.: 2.0000 Each(s)/Unit Total: 10.0000 Each(s)

Screw

Pick:

Qty Part Number

Description

Batch

2 MS27039-1-18

Screw

1108161

EF 09/23/09

12.0

SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

Assemble as per Dwg D206-558

EF 09/03/09 (5)

13.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

SB 09/03/09 (5)

14.0

D37781

Bracket



Comment: Qty.: 1.0000 Each(s)/Unit Total: 5.0000 Each(s)

Bracket

batch:

41958

SS 09/03/09 (X5)

15.0

D2053

Mounting Bracket



Comment: Qty.: 1.0000 Each(s)/Unit Total: 5.0000 Each(s)

Bracket

Pick: Packing Kit

Qty Part Number

Description

Batch

1 D2053

Bracket

38531

SS 09/03/09 (X5)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B		Sign & Date	Verification Section C	Approval Chief Eng	Approval QC Inspector
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Job Number: 41912

Part Number: D206558041

Job Number:



Seq. #:

Machine Or Operation:

Description :

16.0

D2067

Connector



Comment: Qty.: 1.0000 Each(s)/Unit Total : 5.0000 Each(s)

Connector

Pick: Packing Kit

Qty Part Number

Description

Batch

1

D2067

Connector

39558

SS 09/03/10 XS

17.0

D2071

Cable Assembly



Comment: Qty.: 1.0000 Each(s)/Unit Total : 5.0000 Each(s)

Cable Assembly

Pick: Packing Kit

Qty Part Number

Description

Batch

1

D2071

Cable

39559 x4 38289 x1

SS 09/03/10 XS

18.0

AN34A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total : 20.0000 Each(s)

Bolt

Pick: Packing Kit

Qty Part Number

Description

Batch

4

AN3-4A

Bolt

M103641

SS 09/03/10 XS

19.0

AN5261032R9

Screw



Comment: Qty.: 4.0000 Each(s)/Unit Total : 20.0000 Each(s)

Screw

Pick: Packing Kit

Qty Part Number

Description

Batch

4

AN526-1032R9

Screw

M101199

or AN526C1032R9

SS 09/03/10 XS

20.0

MS21942L3

Nut



Comment: Qty.: 1.0000 Each(s)/Unit Total : 5.0000 Each(s)

Nut

Batch:

M110399

SS 09/03/10 XS

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Job Number: 41912

Part Number: D206558041

Job Number:



Seq. #:

Machine Or Operation:

Description :

21.0

AN960JD10L

Washer



Comment: Qty.: 6.0000 Each(s)/Unit Total : 30.0000 Each(s)

Washer

Pick: Packing Kit

Qty Part Number Description Batch

6 AN960JD10L Washer

M109632

JS 09/03/10 KS

22.0

MS21919DG5

Clamp



Comment: Qty.: 2.0000 Each(s)/Unit Total : 10.0000 Each(s)

Clamp

Pick: Packing Kit

Qty Part Number Description Batch

2 MS21919DG5 Clamp

or MS21919WDG5

M107d2

JS 09/03/10 KS

23.0

MS354899

Grommet



Comment: Qty.: 1.0000 Each(s)/Unit Total : 5.0000 Each(s)

Grommet

Pick: Packing Kit

Qty Part Number Description Batch

1 MS35489-9 Grommet

107376

JS 09/03/10 KS

24.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

Separated & identified kit by kit

050310

25.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D206-558-041

Location: \_\_\_\_\_

PPP Rev: \_\_\_\_\_

09/03/10 (5)

26.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

09/03/11

Job Completion



MF 09-03-11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

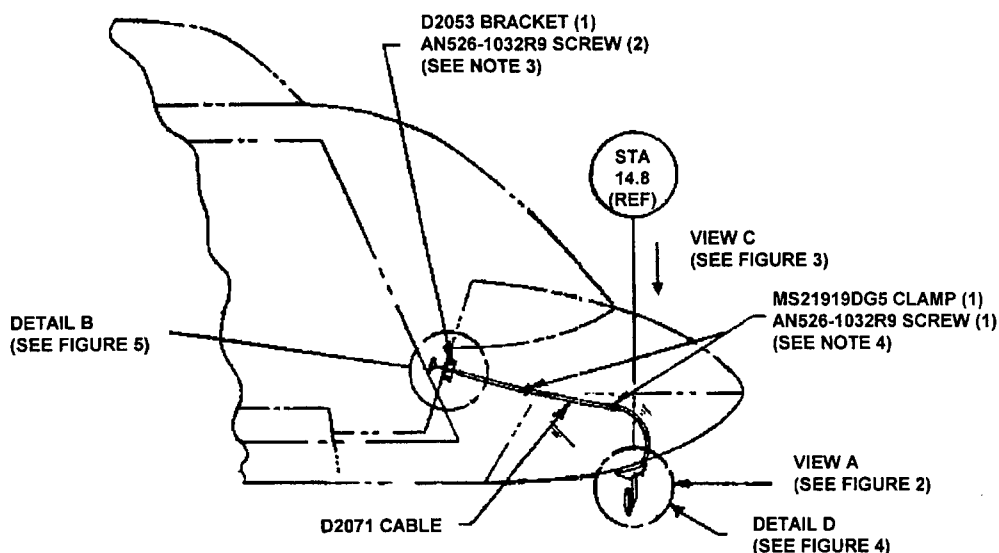
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B		Sign & Date	Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng				

**NOTE:** Date & initial all entries

## 1.0 INTRODUCTION

The cargo mirror is available as either a single (D206-558-041) or a dual (D206-558-043) and allows the pilot to view the hook/load for safe hookup and release. The dual mirror kit is used primarily for pilot training. Using the control cable inside the cabin, the cargo mirror can be easily adjusted or stowed for cruise flight.



**Figure 1: D206-558-041/-043 Cargo Mirror Installations (Shown in Deployed Position)**

## 2.0 GENERAL NOTES

### COMPATIBILITY

Compatibility of this installation with the aircraft is the **responsibility of the installer**. Ensure that this installation does not conflict with a previous modification.

### CONTINUING AIRWORTHINESS

This installation should be maintained in accordance with the Instructions for Continued Airworthiness ICA-D206-558.

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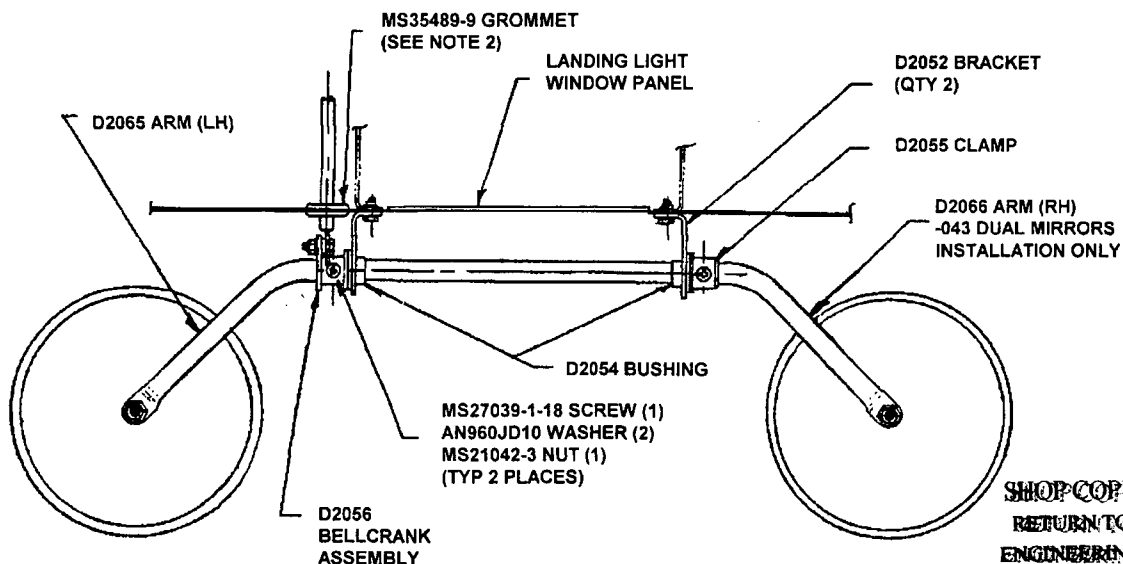
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Revision: **C**  
Date: 01.10.03

### 3.0 CARGO MIRROR INSTALLATION

Install the Cargo Mirror as follows:

1. Install D206-558-041/-043 cargo mirror assembly using AN3-4A bolts and AN960JD10L washers. Pickup existing anchor nuts in 4 places.
2. Install D2067 connector onto D2056 bellcrank assembly to locate hole for MS35489-9 grommet. With the mirror in the deployed position, mark and drill  $\varnothing 0.125$ " (3.2mm) hole in landing light window panel where the grommet should be located. Open pilot hole to  $\varnothing 0.563$ " (14.3mm). Install grommet.
3. Install D2053 bracket using AN526-1032R9 screws. Pickup on existing anchor nuts.
4. Position D2071 cable as shown. Install MS21919DG5 clamps using AN526-1032R9 screws where required. Pickup existing rivnuts or anchor nuts if available.
5. Install D2071 control cable using D2067 connector. Connector should rotate freely in bellcrank when MS21042-3 nut is torqued and cable clamped



**Figure 2: – View A: Looking Aft.  
(D206-558-043 Mirror Shown)**

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Date: 01.10.03

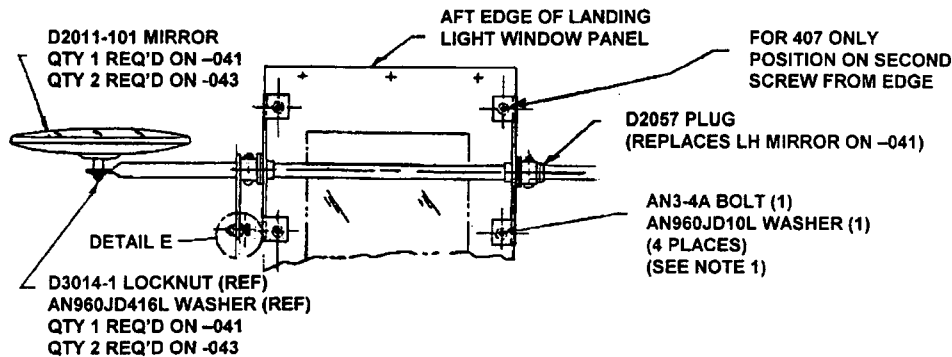


Figure 3: - View C: Looking Down on Mirror Installation  
(D206-558-041 Mirror Shown)

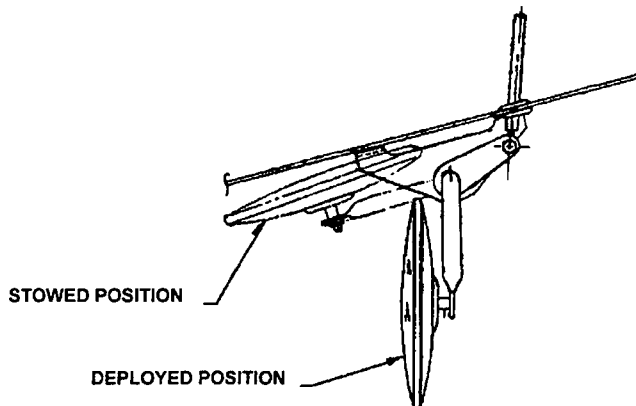


Figure 4: - Detail D: Looking from Side on Mirror Installation  
(D206-558-041/-043 Mirror Shown)

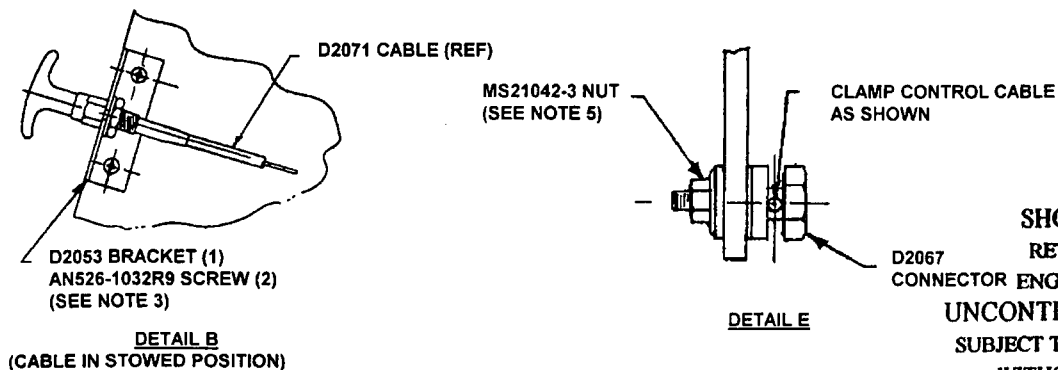


Figure 5: - Details B and E on Mirror Installation  
(D206-558-041/-043 Mirror Shown)

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## 4.0 WEIGHT AND BALANCE

Installation	Weight	LATERAL		LONGITUDINAL	
		Arm	Moment	Arm	Moment
D206-558-041 Bell 206A/B/L/L1/L3/L4 Bell 407	2.4 lb 1.09 Kg	+5.0 in +0.13 m	+12.0 in-lb +0.14 m-Kg	+14.8 in +0.38 m	+35.5 in-lb +0.41 m-Kg
D206-558-043 Bell 206A/B/L/L1/L3/L4 Bell 407	3.0 lb 1.36 Kg	0.0 in 0.0 m	0.0 in-lb 0.0 m-Kg	+14.8 in +0.38 m	+44.4 in-lb +0.52 m-Kg

## 5.0 WEIGHT AND BALANCE

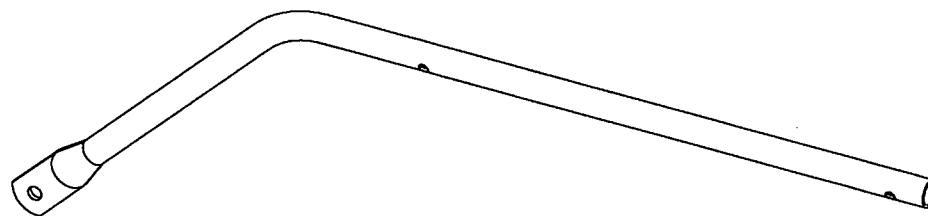
Qty -041	Qty -043	Part Number	Description
X		D206-558-041	SINGLE CARGO MIRROR ASSEMBLY
	X	D206-558-043	DUAL CARGO MIRROR ASSEMBLY
1	2	D3014-1	* LOCKNUT
1	1	D2071	CABLE ASSEMBLY
2	2	D2054	BUSHING
1	1	D2067	CONNECTOR
	1	D2066	ARM
1		D2065	ARM
1		D2057	PLUG
1	1	D2056	BELLCRANK ASSEMBLY
1	1	D2055	CLAMP
1	1	D2053	BRACKET
2	2	D2052	BRACKET
1	2	D2011-101	MIRROR ASSEMBLY
4	4	AN3-4A	BOLT
4	4	AN526-1032R9	SCREW
1	2	AN960JD416L	* WASHER
4	4	AN960JD10	WASHER
6	6	AN960JD10L	WASHER
3	3	MS21042-3	NUT (or MS21042L3)
2	2	MS21919DG5	CLAMP
2	2	MS27039-1-18	SCREW
1	1	MS35489-9	GROMMET

\* INCLUDED AS PART OF D2011-101 MIRROR ASSEMBLY

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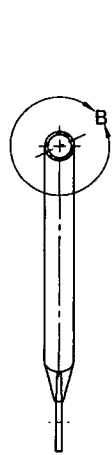
**D2065 ARM**

**RELEASED**  
08.07.23.17

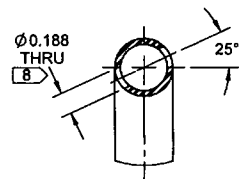
C	REDRAWN IN SOLIDWORKS; INCORPORATED REV. B1 (FINISH ADDED VIA HAND CHANGE) (ZN A8-2); ADD D2065F CUT LENGTH DETAIL FOR D2065 (ZN B3-2); ADD R1.50 DIMENSION (ZN D5-2); Ø 0.500 X 0.049 WALL WAS Ø 0.500 X 0.035 WALL (ZN A5-2); REASON: Ø 0.500 X 0.035 WALL TUBING USED ON D2010 IS CRACKING DURING SERVICE		PH	08.06.13
B	RE-DESIGN		BW	96.02.06
A	NEW ISSUE		BW	92.03.12
REV.	DESCRIPTION		BY	DATE
DESIGN	BW	<b>DART AEROSPACE LTD</b>		
DRAWN	PH	HAWKESBURY, ONTARIO, CANADA		
CHECKED	DS	DRAWING NO.	REV. C	
MFG. APPR.	JP	D2065	SHEET 1 OF 2	
APPROVED	JP	TITLE	SCALE	
DE APPR.	JP	ARM	NTS	
DATE	08.06.13	<small>COPYRIGHT © 1992 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>		

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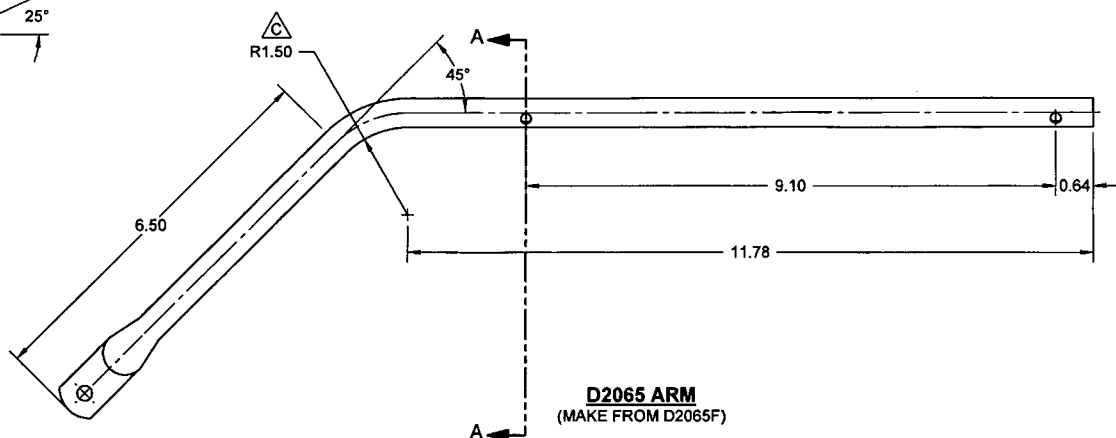
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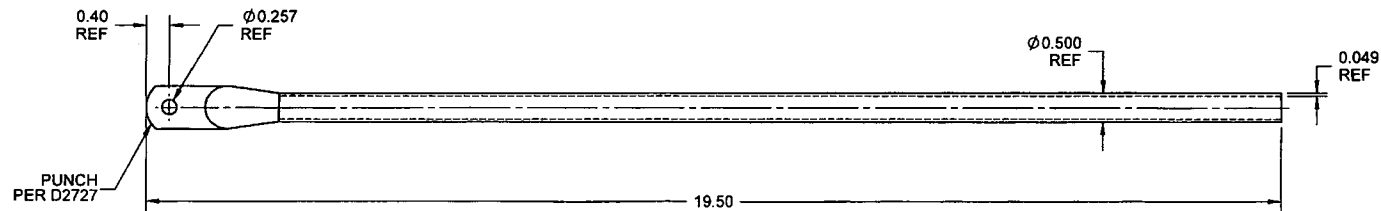
SECTION A-A



DETAIL B  
SCALE 3X  
2 PL



D2065 ARM  
(MAKE FROM D2065F)



D2065F ARM CUT LENGTH DETAIL

RELEASED  
08.07.2013

- NOTES:
- 1) MATERIAL: D2065F: AISI 304/316 SS SEAMLESS ROUND TUBING,  $\phi$  0.500 X 0.049 WALL (REF DART SPEC M304TR0.500W.049)
  - 2) FINISH: POWDER COAT BLACK SANDTEX (4.3.5.7) PER DART QSI 005 4.3
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: N/A
- NET WEIGHT: 0.41 lbs  
GROSS WEIGHT: 0.488 AFTER BENDING

DESIGN	BW	DART AEROSPACE LTD	
DRAWN	PH	HAWKESBURY, ONTARIO, CANADA	
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MFG. APPR.	IS	D2065	SHEET 2 OF 2
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